

CLAIMS

1. Use of coenzyme ubiquinone Q10 for the production of a drug for ophthalmic topical use for the prevention and treatment of pathologies, or incidental or post-surgical trauma, of the anterior chamber of the eye.
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2. Use of ubiquinone Q10 according to claim 1, wherein said treatment comprises prevention and treatment of corneal haze following corneal trauma, general surgery and refractive surgery; prevention of regression of corrective effects after operation of refractive surgery performed by conventional surgery or by laser radiation; and eye protection against damage determined by solar light and ultraviolet radiation.
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3. Use of ubiquinone Q10 according to claim 1 or 2, wherein said treatment is directed to protect eye cells against reversible or irreversible damage induced by said surgical operation and, or laser and by exposure to solar and ultraviolet radiation.
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4. Use of ubiquinone Q10 according to any of the preceding claims, wherein said irreversible damage of said cells is apoptosis.
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5. Use of ubiquinone Q10 according to any of the preceding claims, wherein said cells are corneal stromal keratocytes.
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6. Use of ubiquinone Q10 according to any of the preceding claims, wherein said corneal surgery is the photorefractive keratectomy (PRK) and the laser-assisted in situ keratomileusis (LASIK).
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7. Use of ubiquinone Q10 according to claim 6, wherein said photorefractive keratectomy (PRK) and said laser-assisted in situ keratomileusis (LASIK) are performed by laser sources.
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8. Use of ubiquinone Q10 according to claim 7, wherein said laser sources are excimer laser.
9. Use of ubiquinone Q10 according to claim 8, wherein said laser source is a 193 nm ArF excimer laser.

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10. Use of ubiquinone Q10 according to any of the preceding claims, wherein said medicament comprises a composition for topical administration to the cornea, including ubiquinone Q10 in a quantity effective to said treatment and a pharmaceutically compatible vehicle.

5 11. Use of ubiquinone Q10 according to claim 10, wherein said vehicle is an aqueous solution of a mixture comprising: a block copolymer of hydrophilic ethylene oxide and lipophilic propylene oxide, having a prevailing proportion of polyoxyethylene, an average molecular weight between 10.000 and 13.000 Dalton and a HLB value higher than 15; and a modified castor oil.

10 12. Use of ubiquinone Q10 according to claim 11, wherein said copolymer comprises about 70% of polyoxyethylene and has a HLB value of about 22.0

15 13. Use of ubiquinone Q10 according to claim 11 or 12, wherein said modified castor oil is polyethylene glycol glyceryl-triricinoleate.

20 14. A collyrium composition for topical ophthalmic use comprising, as components: ubiquinone Q10 by 0,01 up to 2,0% p/w; tocopherol by 0,005 up to 0,1% p/w; and a mixture including modified castor oil and a block copolymer of hydrophilic ethylene oxide and lipophilic propylene oxide having a prevailing proportion of polyoxyethylene, an average molecular weight between 10.000 and 13.000 Dalton and a HLB value higher than 15, in a quantity sufficient to solubilize said components in an aqueous solution.

25 15. A composition according to claim 14, comprising ubiquinone by 0,1 up to 1,0% p/w.

30 16. A composition according to claim 14, comprising ubiquinone by about 0,2% p/w.

35 17. A composition according to claim 14, comprising tocopherol by 0,01 up to 0,05% p/w.

35 18. A composition according to any of the claims 14 to 17, wherein said modified castor oil is polyethylene

glycol glyceryl-triricinoleate.

19. A composition according to any of the claims 14
to 18 comprising in an aqueous solution, as components:
ubiquinone Q10 by about 0,2% p/w; tocopherol by 0,02 up
5 to 0,04% p/w; and a mixture including polyethylene glycol
glyceryl-tryrinoleate and a block copolymer of ethylene
oxide and propylene oxide having a proportion of
polyoxyethylene by about 70%, an average molecular weight
of about 12.000 Dalton and a 22 HLB value by 10 up to
10 15%.

20. A composition according to any of the claims 14 to 19, furthermore comprising, as auxiliary ingredients, pH correctors, buffer salts, antiseptics, complexants, antioxidants, synergizing agents and preservatives.

15 21. A process to produce a composition as claimed
in any of the claims 14 to 20, comprising the steps of:
melting the ubiquinone, the tocopherol, the block
copolymer and the modified castor oil, at a temperature
of 40 up to 80°C until obtaining a melt mass; adding
20 water to the melt mass at the same temperature until
obtaining a dispersion; fully solubilize said components
under stirring.

22. A process according to claim 21, wherein said temperature is 60°C.

25 23. A process according to claim 21 or 22, wherein
said auxiliary ingredients are added after
solubilization.